

WHAT IS CLAIMED IS:

1. A nucleic acid molecule encoding a mutant Green Fluorescent Protein, said mutant Green Fluorescent Protein having an amino acid sequence comprising an amino acid residue lacking an aromatic ring structure at position 64 and an amino acid residue having a side chain no longer than two carbon units in length at position 65, with the provisos that

if said residue at position 64 is leucine then said residue at position 65 is not cysteine or threonine;

if said residue at position 64 is valine then said residue at position 65 is not alanine;

if said residue at position 64 is methionine then said residue at position 65 is not glycine; and

if said residue at position 64 is glycine then said residue at position 65 is not cysteine.